

Case Study

An unusual benzodiazepine dependence in an opioid dependent patient: a case report

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ABSTRACT

Treatment of polysubstance abuse involving heroin and benzodiazepines is a challenge in clinical practice. The potential risk of additive pharmacological effects may be associated with poorer outcomes in patients who use benzodiazepines together with heroin. The index case had presented with multiple episodes of seizure with the average use of 250 mg of diazepam per day over past 1 year. The patient also has dependence of heroin taking around 2 grams per day since last 12 yrs with multiple admissions in rehabilitation centres. Patient was previously tried with Opioid Substitution Therapy (OST) multiple times with unsuccessful attempts. Finally, as patient was unmanageable on OST due to severe withdrawal features, he was started on Methadone Maintenance Treatment (MMT).

Keywords: *Dependence, Benzodiazepines, Opioids, OST, MMT*

Opioid use is usually associated with misuse of benzodiazepines for self-medication for increasing the actions of opioids. Self-medication is usually done for treating psychiatric symptoms, opioid withdrawal symptoms and also helps in alcohol abusers.¹ Injected benzodiazepines prolong the effect and duration of opioid action. This may be the reason for patients who are treated for opioid withdrawal to misuse benzodiazepine to enhance effects or to decrease withdrawal symptoms due to suboptimal dosing by substituting drug.²

People using opioids and BZDs in combination may result in serious health problems. BZDs target the GABAA receptor.³ Adverse drug effects leading to increased opioid serum concentrations may be due to the presence of CYP system mediated complex drug-drug interaction and presence of impaired hepatic function. Simultaneous use of both drugs can decrease heart rate and respiratory rate leading to increased risk of accidental overdose.⁴

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Various methods of benzodiazepine use by opioid users are by oral, snorting and intravenous routes. Usually, benzodiazepines with rapid onset of action like diazepam and alprazolam are used.⁵

Clinical case

Index patient, a 26 years old unmarried male, hindu by religion, educated till class XII, resident of Iroisemba Imphal West belonging to a middle socio-economic background had presented to the emergency dept with multiple episodes of seizure. Each episode would last for 2-3 mins. The patient would become unconscious. This would be followed by uprolling of the eyes and clenching of the teeth. The patient's body would become stiff and there would be synchronous jerky movements of the upper and lower limbs lasting for 2-3 mins. Sometimes there would be associated urinary incontinence. The patient would be unresponsive throughout the entire episode. He would gradually become conscious after 20-30 mins. He would be confused and would complain of body aches. He would not be able to recall what had happened to him. Such episodes would occur in clusters of 10-15 seizures in a day upto 3-4 times in a week.

The patient would be seizure free the rest of the days but he would complain of severe body aches. He would suffer from multiple joint pain, muscle cramps, neck and back pain. The patient would not be able to sit in one place. He would be shivering, restless and would walk around his room. He would have difficulty breathing and would feel his heart pounding in his chest. They would not be able to sleep or eat, would have watering of eyes and running nose. He would feel very cold and his skin would feel like gooseflesh.

On enquiring from the patient and family members it was found that the patient was using heavy amount of drugs since his school life (2008).

Substance abuse history

2008- the patient was studying in class VIII when he had come home from boarding school and gone out with his friends. His friends were having a party. One of his friends had got some tablets and told him that he would feel magical if tried them. The patient became very curious when he saw his friends trying and he also wanted to feel he "high". He tried a mixture of few tablets of tab. Spasmoproxyvon and nitrazepam. after sometime the patient felt very light and had the feeling that he was flying. He felt very euphoric and wanted to be in that state forever. After a few days the patient returned to his school but the curiosity of trying the drug again stayed with him.

2009- the patient gradually started taking those tabs daily. He would pay money to the day scholars and acquire them. He would take around 4 strips (32 tabs) of spasmoproxyvon and 2 strips (4 tabs) of nitrazepam daily.

2010- the patient was caught with drugs and was sent back to his home with warning.

2011 December- the patient was staying at home. The patient had gone to a birthday party where he tried injection Heroin for the first time both out of curiosity and peer pressure. He felt a kick which was different from those of the tablets. Initially the patient had started injecting around 6 units of insulin syringe around 2-3 times per day, costing him Rs 200-300. The patient would take the tablets first and wait for 10-15 mins before injecting the injection. Like that he would get a stronger kick.

An unusual benzodiazepine dependence in an opioid dependent patient: a case report

2014-the patient had gradually increased his heroin injections to 1-2 grams per day costing him Rs.500-600 per day.

2016 march- he found that alprazolam would relieve the anxiety he was having when he would not get the drugs. He ended up taking greater doses than required. He took around 2 strips (20 tablets) daily with injection heroin.

2017-the patient had decided to quit drugs for good but he could not control his anxiety. He took shelter in alcohol, drinking almost 2 litres per day. He would start drinking from the morning and avoid his family members and even neglect selfcare.

2018- unable to resist himself seeing his friends using heroin he started again. The patient did not have enough money hence he started taking diazepam as to reduce the dose of heroin. The patient gradually increased the dose of diazepam and started using an amount of 250-300 mg daily to maximum of 350 mg occasionally.

Rehabilitation story

The patient has been admitted in rehabilitation centre more than 20 times with duration of 5 days to almost 3 months. After returning from rehab centre he would be abstinent for 2-3 days but again give in to drugs just to experience the high again.

Withdrawal assessment scales on admission

- Clinical opiate withdrawal scale-27 (moderately severe)
- Subjective opiate withdrawal scale-48 (severe withdrawal)
- Clinical Institute Withdrawal Assessment Scale – benzodiazepines (CIWA-B)- 69 (severe withdrawal)

Laboratory investigation showed Hepatitis B (HBs Ag) positive and rest investigations were within normal limits.

On physical examination multiple healed punctured marks were present over the right cubital fossa with hyper pigmentation and thickened veins.

On mental status examination the patient was restless intermittently, psychomotor activity was Increased. The affect was anxious, appropriate and communicable. The judgement was intact and insight was present.

Patient was started on Tab chlordiazepoxide 90 mg, Methadone liquid 8 ml (40mg). Patient had suffered multiple seizures even after initiation of treatment. Management plan was to put the patient on stable dose of methadone maintenance and provide Motivation Enhancement Therapy and Relapse Prevention.

DISCUSSION

Studies showed that co-administration of diazepam with opioids resulted in increase in “strength of drug effect” and “sedation” in comparison to opioid alone.⁶ Using together the combination of opioid and BZD drugs resulted in increased risk of overdose, exacerbation of criminal, psychological and/or medical problems which is common among drug users.⁷

An unusual benzodiazepine dependence in an opioid dependent patient: a case report

Evidence from various studies showed that BZDs might have a role in as much as 80% of overdose deaths involving opioids which are unintentional, primarily due to respiratory depression.⁸ In previous studies on detoxification for high dose benzodiazepine dependence, patients with a dose of 40 to 500 mg diazepam equivalents (Median 150mg) were included. Hence this case is a first of its kind in which the median dose is 250 mg.⁹

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Conflict of Interest

The author declared no conflict of interest.

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